

Abstract

A temperature-humidity exchanger comprising: a moisture permeable membrane which transmits moisture therethrough; a dry gas separator in which low-temperature dry gas is caused to flow; and a wet gas separator in which high-temperature wet gas is caused to flow, in which the moisture permeable membrane, the dry gas separator, the moisture permeable membrane, and the wet gas separator are repeatedly stacked in the stated order, wherein in the dry gas separator and the wet gas separator: a plurality of channel grooves which are divided by half in the stacking direction, are open to a direction in which the channel grooves come into contact with the moisture permeable membrane, and are arrayed parallel to one another are provided; an aggregate communication groove which is made to communicate with both end portions of the plurality of channel grooves, for aggregating gas caused to flow through the channel grooves to at least one is provided; and a supply manifold and an exhaust manifold which are made to communicate with the aggregate communication groove and penetrate the separators in the stacking direction are provided; and a flow of the dry gas caused to flow in the channel grooves of the dry gas separators and a flow of the wet gas caused to flow in the channel grooves of the wet gas separators are counterflows.